

LOCUS MMIL12P40 984 bp mRNA ROD 11-APR-1996
 DEFINITION M.monax mRNA for Il-12 p40 subunit.
 ACCESSION X97019
 VERSION X97019.1 GI:1262373
 KEYWORDS interleukin 12; p40 subunit.
 SOURCE woodchuck.
 ORGANISM Marmota monax
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Rodentia; Sciurognathi; Sciuridae; Sciurinae;
 Marmota.
 REFERENCE 1 (bases 1 to 984)
 AUTHORS Ackrill,A.M.
 TITLE Direct Submission
 JOURNAL Submitted (21-MAR-1996) A.M. Ackrill, Roche Research Centre, PO Box
 8, Broadwater Road, Welwyn Garden City, Herts AL7 3AY, UK
 REFERENCE 2 (bases 1 to 984)
 AUTHORS Laxton,C.D., Foster,G.R., Shanmuganathan,S., Mills,J.S. and
 Ackrill,A.M.
 TITLE Molecular cloning of interleukin-12 from the woodchuck Marmota
 monax
 JOURNAL Unpublished
 FEATURES Location/Qualifiers
 source 1..984
 /organism="Marmota monax"
 /db_xref="taxon:9995"
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 CDS 1..984
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 /db_xref="GI:1262374"
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 /translation="MCLQQLVISWVSLVWLASPLLAWELEKNVYVVELDWHPDTPGE
 KVVLTCDTPEEDGITWTSEQSSEVLGSGKTLTILVKEFEDAGHYTCRRGGEVLSQMLL
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 SSDPQGVTCGEATLSAERVKIEQREYKKYSVQCQEDNACPTAETLPITVVVDAVHKL
 KYENYISSFFIRDIIKPDPPKLNLMKPSKTPQQVEVTWEYPDSWSTPHSYFSLTFSVQ
 VQGKKKKRSNTLHVDTKTSVTVTQCQKAKVSVQARDRYNSSWSEWATMSCP"
 BASE COUNT 271 a 256 c 259 g 198 t
 ORIGIN
 1 atgtgtcttc agcagttggt catctcctgg gtctccctgg tttggctggc atctccctc
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 121 acacctggag aaaaggtggt cctcacctgt gacactcctg aagaagacgg catcacctgg
 181 acctcagagc agagcagtga ggtcttaggc tccggcaaaa ccctgaccat tctagtcaaa
 241 gagtttgaag acgctggcca ctacacctgc cgcagaggag gtgaagttct gagccagatg
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 541 atagagcaga gggagtacaa gaagtactcg gtgcagtgcc aggaggacaa tgccctgcccc
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 721 ctaaagatga agccatccaa gactcctcag caggtggagg tcacctggga gtacccggac
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LOCUS CFU49100 1015 bp mRNA MAM 13-MAR-1996
 DEFINITION Canis familiaris interleukin-12 p40 subunit mRNA, complete cds.
 ACCESSION U49100
 VERSION U49100.1 GI:1223907
 KEYWORDS .
 SOURCE dog.
 ORGANISM Canis familiaris
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
 REFERENCE 1 (bases 1 to 1015)
 AUTHORS Belke-Louis, G.F. and Buettner, M.
 TITLE Cloning and sequence analysis of the p35 and p40 subunits of canine interleukin-12
 JOURNAL Unpublished
 REFERENCE 2 (bases 1 to 1015)
 AUTHORS Belke-Louis, G.F.
 TITLE Direct Submission
 JOURNAL Submitted (13-FEB-1996) Georg F. Belke-Louis, Institute of Med. Microbiology, Veterinärstr. 13, Muenchen, D-80539, Germany
 FEATURES Location/Qualifiers
 source 1..1015
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 /db_xref="taxon:9615"
 CDS 1..990
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 /protein_id="AAA92059.1"
 /db_xref="GI:1223908"
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 LIHKKEDGIWSTDILKEQKESKNKIFLKCEAKNYSGRFTCWWTALISTDLKFSVKSSR
 GFSDPQGVTCGAVTLSAERVRVDNRDYKKYTVECEGSACPSAEESLPYVVDIAHK
 LKYENYTSFFIRDIIKPDPTNLQLKPLKNSRHVEVSWEYPDTWSTPHSYFSLTFCV
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 BASE COUNT 285 a 251 c 254 g 225 t
 ORIGIN
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 181 acctcagcgc agagcagtga agtcctaggt tctggtaaaa ctctgacctt ccaagtcaaa
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 541 agagtggaca acagggatta taagaagtag acagtggagt gtcaggaagg cagtgcctgc
 601 cctctgccc agtagagcct acccatcgag gtcgtggtgg atgctattca caagctcaag
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LOCUS AF007576 1012 bp mRNA MAM 14-JUL-1997
 DEFINITION Capra hircus interleukin 12 p40 subunit (IL-12) mRNA, complete cds.
 ACCESSION AF007576
 VERSION AF007576.1 GI:2253433
 KEYWORDS .
 SOURCE goat.
 ORGANISM Capra hircus
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
 Bovidae; Caprinae; Capra.
 REFERENCE 1 (bases 1 to 1012)
 AUTHORS Beyer, J.C., Cheevers, W.P. and Kumpula-McWhirter, N.M.
 TITLE Cloning of caprine IL-12 40 kDa subunit
 JOURNAL Unpublished
 REFERENCE 2 (bases 1 to 1012)
 AUTHORS Beyer, J.C., Cheevers, W.P. and Kumpula-McWhirter, N.M.
 TITLE Direct Submission
 JOURNAL Submitted (09-JUN-1997) Veterinary Microbiology and Pathology,
 Washington State University, P.O. Box 647040, Pullman, WA
 99164-7040, USA
 FEATURES Location/Qualifiers
 source 1..1012
 /organism="Capra hircus"
 /db_xref="taxon:9925"
 /cell_type="LPS-stimulated microglial cell"
 gene 1..1012
 /gene="IL-12"
 CDS 1..984 Birgit OPPMANN, et al.
 /gene="IL-12" USSN: 09/658,699
 /codon_start=1 Atty. Docket No.: DX01042X
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 /protein_id="AAB62945.1"
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 GSSDPRGVTGCAASLSAEKVSMDHREYNKYTVECEGSACPAEESLPIEVVMEAVHK
 LKYENYTSSFFIRDIIKPDPPKNLQLRPLKNSRQVEVSWEYPDWSTPHSYFSLTFCV
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 BASE COUNT 280 a 253 c 260 g 219 t
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 121 gtcctctggag aaacagtgg cctcacgtgt gacactcctg aagaagacgg catcacctgg
 181 acctcagacc agagcagtga ggtcctgggc tctggcaaaa ccttgaccat ccaagtcaaa
 241 gagtttggag atgctgggca gtacacctgt cacaaggag gcgaggttct gagtgcgttca
 301 ctctctctgc ttcacaaaaa ggaagatgga atttggtcca ctgatatttt aaaggatcag
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LOCUS FCU83184 990 bp mRNA MAM 16-JUL-1999
 DEFINITION Felis catus interleukin-12 p40 subunit (IL-12) mRNA, complete cds.
 ACCESSION U83184
 VERSION U83184.1 GI:2735050
 KEYWORDS .
 SOURCE cat.
 ORGANISM Felis catus
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
 REFERENCE 1 (bases 1 to 990)
 AUTHORS Fehr, D., Dean, G.A., Huder, J., Fan, Z., Huettner, S., Higgins, J.W.,
 Pedersen, N.C. and Lutz, H.
 TITLE Nucleotide and predicted peptide sequence of feline interleukin-12
 (IL-12)
 JOURNAL DNA Seq. 8 (1-2), 77-82 (1997)
 MEDLINE 98182592 Birgit OPPMANN, et al.
 PUBMED 9522125 USSN: 09/658,699
 REFERENCE 2 (bases 1 to 990) Atty. Docket No.: DX01042X
 AUTHORS Fehr, D., Dean, G.A., Huder, J., Fan, Z., Huettner, S., Higgins, J.W.,
 Pedersen, N.C. and Lutz, H.
 TITLE Direct Submission
 JOURNAL Submitted (24-DEC-1996) Clinical Laboratory, Department of Internal
 Veterinary Medicine, University of Zurich, Winterthurerstrasse 260,
 Zurich, ZH 8057, Switzerland
 FEATURES Location/Qualifiers
 source 1..990
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 CDS 1..990
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 LKYENYTSSFFIRDIIKPDPKLNQLKPLKNSRHEVSWEYPDTWSTPHSYFSLTFGV
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 BASE COUNT 283 a 251 c 249 g 207 t
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LOCUS RNU16674 821 bp mRNA ROD 07-NOV-1994
 DEFINITION Rattus norvegicus interleukin-12p40 mRNA, partial cds.
 ACCESSION U16674
 VERSION U16674.1 GI:565093
 KEYWORDS .
 SOURCE Norway rat.
 ORGANISM Rattus norvegicus
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
 Rattus.
 REFERENCE 1 (bases 1 to 821)
 AUTHORS Goodman, R.E. and Toews, G.B.
 TITLE A partial cDNA of the coding region of rat IL-12p40, cloned by
 RT/PCR from Staphylococcal endotoxin stimulated splenocytes
 JOURNAL Unpublished
 REFERENCE 2 (bases 1 to 821)
 AUTHORS Goodman, R.E.
 TITLE Direct Submission
 JOURNAL Submitted (27-OCT-1994) Richard E. Goodman, Internal
 Medicine/Pulmonary, University of Michigan, 1150 W. Medical Center
 Dr., 3311 Med. Sci. I, Ann Arbor, MI 48109-0652, USA

FEATURES Location/Qualifiers
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 /db_xref="taxon:10116"
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 stimulation)"
 CDS 17..>821
 /note="encodes the N-terminal 268 amino acids of the
 expected 335 amino acids encoded by the mouse gene"
 /codon_start=1
 /product="interleukin-12p40"
 /protein_id="AAA52229.1"
 /db_xref="GI:565094"
 /translation="MCHQKLTFSWFAMVLLVSPLMAMWELEKDVYVVEVDWRPDAPGE
 TVTLTCDSPEEDDITWTSQRRGVIGSGKTLTITVREFLDAGQYTCHRGGETLSHSHL
 LLHKKENGIWSTEILKNFKNKTFLKREAPNYSGRFTCSWLVRNTDLKFNIKSSSSSP
 ESRVTCGAASLSAEKVTLNQRDYEKYSVACQEDVTCPTAEETLPIELVVEAQQQNKY
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BASE COUNT 224 a 218 c 211 g 168 t
 ORIGIN

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Birgit OPPMANN, et al.
 USSN: 09/658,699
 Atty. Docket No.: DX01042X

LOCUS HUMCLMF40 1399 bp mRNA PRI 27-APR-1993
 DEFINITION Human cytotoxic lymphocyte maturation factor 40 kDa subunit mRNA, complete cds.
 ACCESSION M65272 M38443 M38444
 VERSION M65272.1 GI:180625
 KEYWORDS cytotoxic lymphocyte maturation factor 40 kDa subunit; interleukin.
 SOURCE Human, cDNA to mRNA.
 ORGANISM Homo sapiens
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 REFERENCE 1 (bases 1 to 1399)
 AUTHORS Gubler, U., Chua, A.O., Schoenhaut, D.S., Dwyer, C.M., McComas, W., Motyka, R., Nabavi, N., Wolitzky, A.G., Quinn, P.M., Familletti, P.C. and Gately, M.K.
 TITLE Coexpression of two distinct genes is required to generate secreted bioactive cytotoxic lymphocyte maturation factor
 JOURNAL Proc. Natl. Acad. Sci. U.S.A. 88, 4143-4147 (1991)
 MEDLINE 91239523
 FEATURES
 source Location/Qualifiers
 1..1399
 /organism="Homo sapiens"
 /db_xref="taxon:9606"
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 /protein_id="AAA35695.1"
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 GSSDPQGVTCGAATLSAERVGRDNKEYEYSVEQCQEDSACPAAEESLPIEVMVDAVHKL
 KYENYTSSFFIRDIIKPDPPKNLQLKPLKNSRQVEVSWEYPDTWSTPHSYFSLTFCVQ
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BASE COUNT 390 a 310 c 333 g 366 t
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181 gtcctcacct gtgacacccc tgaagaagat ggtatcacct ggaccttgga ccagagcagt
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Birgit OPPMANN, et al.
 USSN: 09/658,699
 Atty. Docket No.: DX01042X

LOCUS AF133197 1008 bp mRNA ROD 08-APR-1999
 DEFINITION Rattus norvegicus interleukin-12 p40 precursor, mRNA, complete cds.
 ACCESSION AF133197
 VERSION AF133197.1 GI:4574731
 KEYWORDS .
 SOURCE Norway rat. Birgit OPPMANN, et al.
 ORGANISM Rattus norvegicus USSN: 09/658,699
 Atty. Docket No.: DX01042X
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
 Rattus.
 REFERENCE 1 (bases 1 to 1008)
 AUTHORS Khalife,J., Pierrot,C., Cocude,C., Cetre,C., Godin,C. and Capron,A.
 TITLE Molecular cloning and sequencing of the rat interleukin-12 p40 gene
 JOURNAL Eur. Cytokine Netw. 9 (1), 69-73 (1998)
 MEDLINE 98273736
 REFERENCE 2 (bases 1 to 1008)
 AUTHORS Khalife,J., Pierrot,C., Cocude,C., Cetre,C., Godin,C. and Capron,A.
 TITLE Direct Submission
 JOURNAL Submitted (05-MAR-1999) InSERM U167, 1, rue du professeur Calmette,
 Lille 59019, France
 FEATURES Location/Qualifiers
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 CDS 1..1008
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LOCUS CEU57752 993 bp mRNA MAM 28-OCT-1999
 DEFINITION Cervus elaphus interleukin-12 p40 subunit mRNA, complete cds.
 ACCESSION U57752
 VERSION U57752.1 GI:1373387
 KEYWORDS .
 SOURCE red deer.
 ORGANISM Cervus elaphus
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervoidea;
 Cervidae; Cervinae; Cervus.
 REFERENCE 1 (bases 1 to 993)
 AUTHORS Lockhart,E., Slobbe,L. and Buchan,G.
 TITLE The characterisation of a cervine immunoregulatory cytokine,
 interleukin 12
 JOURNAL DNA Seq. 10 (2), 139-148 (1999)
 MEDLINE 99304506
 PUBMED 10376218 Birgit OPPMANN, et al.
 REFERENCE 2 (bases 1 to 993) ;
 AUTHORS Lockhart,E.A. and Buchan,G.S. USSN: 09/658,699
 TITLE Direct Submission Atty. Docket No.: DX01042X
 JOURNAL Submitted (08-MAY-1996) Euan A. Lockhart, Microbiology, University
 of Otago, Cumberland St, Dunedin, New Zealand
 FEATURES Location/Qualifiers
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 961 tgggcatctg tgtcctgcag ttaggttcta acc

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LOCUS ECIL12P40 1058 bp mRNA MAM 17-NOV-1999
 DEFINITION Equus caballus mRNA for interleukin 12 p40 subunit.
 ACCESSION Y11129
 VERSION Y11129.1 GI:5441622
 KEYWORDS interleukin-12 p40. Birgit OPPMANN, et al.
 SOURCE horse. USSN: 09/658,699
 ORGANISM Equus caballus Atty. Docket No.: DX01042X
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
 REFERENCE 1 (bases 1 to 1058)
 AUTHORS Nicolson,L., Penha-Goncalves,M.N., Keanie,J.L., Logan,N.A.,
 Argyle,D.J. and Onions,D.E.
 TITLE Cloning and sequencing of horse interleukin-12 and interleukin-18
 cDNAs
 JOURNAL Immunogenetics 50 (1-2), 94-97 (1999)
 MEDLINE 20009534
 REFERENCE 2 (bases 1 to 1058)
 AUTHORS Nicolson,L.
 TITLE Direct Submission
 JOURNAL Submitted (04-FEB-1997) L. Nicolson, Dept. of Vet. Pathology,
 University of Glasgow Vet. School, Bearsden Rd., Glasgow G61 1QH,
 UK
 FEATURES Location/Qualifiers
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 CDS 1..990
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LOCUS FCIL12P40 1006 bp mRNA MAM 13-MAY-1997
 DEFINITION F.catus mRNA for interleukin-12 p40 chain.
 ACCESSION Y07762
 VERSION Y07762.1 GI:2102664 Birgit OPPMANN, et al.
 KEYWORDS interleukin-12 p40. USSN: 09/658,699
 SOURCE cat. Atty. Docket No.: DX01042X
 ORGANISM Felis catus
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
 REFERENCE 1 (bases 1 to 1006)
 AUTHORS Schijns,V.E., Wierda,C.M., Vahlenkamp,T.W. and Horzinek,M.C.
 TITLE Molecular cloning of cat interleukin-12
 JOURNAL Immunogenetics 45 (6), 462-463 (1997)
 MEDLINE 97246745
 REFERENCE 2 (bases 1 to 1006)
 AUTHORS Schijns,V.E.C.J.
 TITLE Direct Submission
 JOURNAL Submitted (03-SEP-1996) V.E.C.J. Schijns, Virology Division,
 Veterinary Faculty Utrecht University, Yalelaan 1, NL-3584 CL
 Utrecht, NETHERLANDS
 FEATURES Location/Qualifiers
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LOCUS MUSIL40A 1840 bp mRNA ROD 08-MAY-1993
 DEFINITION Mus musculus interleukin 12 p40 subunit, complete cds.
 ACCESSION M86671
 VERSION M86671.1 GI:293663
 KEYWORDS cytotoxin lymphocyte maturation factor; interleukin 12 p40 subunit;
 natural killer cell stimulatory factor.
 SOURCE Mus musculus (strain C57BL/6) spleen cDNA to mRNA.
 ORGANISM Mus musculus
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 REFERENCE 1 (bases 1 to 1840)
 AUTHORS Schoenhaut, D.S., Chua, A.O., Wolitzky, A.G., Quinn, P.M., Dwyer, C.M.,
 Gately, M.K. and Gubler, U..
 TITLE Cloning and Expression of Murine IL-12
 JOURNAL J. Immunol. 148, 3433-3440 (1992)
 MEDLINE 92268481
 COMMENT On Jun 12, 1993 this sequence version replaced gi:198344.
 Reference [1] reports bases 1 through 1055.

FEATURES Location/Qualifiers
 source 1..1840
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 /strain="C57BL/6" USSN: 09/658,699
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LOCUS AF004024 984 bp mRNA MAM 14-NOV-2000
 DEFINITION *Ovis aries* interleukin-12 p40 subunit precursor, mRNA, complete cds.
 ACCESSION AF004024
 VERSION AF004024.2 GI:5870870
 KEYWORDS . Birgit OPPMANN, et al.
 SOURCE sheep. USSN: 09/658,699
 ORGANISM *Ovis aries* Atty. Docket No.: DX01042X
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea; Bovidae; Caprinae; Ovis.

REFERENCE 1 (bases 1 to 984)
 AUTHORS Swinburne, S.J., Russ, G.R. and Krishnan, R.
 TITLE Ovine interleukin 12 has biological activity on ovine and human activated peripheral blood mononuclear cells
 JOURNAL Cytokine 12 (10), 1546-1552 (2000)
 MEDLINE 20480126
 PUBMED 11023671

REFERENCE 2 (bases 1 to 984)
 AUTHORS Swinburne, S.J., Russ, G.R. and Krishnan, R.
 TITLE Direct Submission
 JOURNAL Submitted (13-MAY-1997) Transplantation Immunology Laboratory, Queen Elizabeth Hospital, 28 Woodville Road, Adelaide, South Australia 5011, Australia

REFERENCE 3 (bases 1 to 984)
 AUTHORS Swinburne, S.J., Russ, G.R. and Krishnan, R.
 TITLE Direct Submission
 JOURNAL Submitted (13-SEP-1999) Transplantation Immunology Laboratory, The Queen Elizabeth Hospital, 28 Woodville Rd., Adelaide, South Australia, Australia

REMARK Sequence update by submitter
 COMMENT On Sep 13, 1999 this sequence version replaced gi:2199555.

FEATURES Location/Qualifiers
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 CDS 1..984
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 721 aacctgcaac tgagaccact aaagaattct cggcaggtgg aagtcagctg ggagtaccct

LOCUS CTU19834 1005 bp mRNA PRI 03-FEB-1996
 DEFINITION Cercocebus torquatus interleukin-12 alpha p40 subunit (IL-12a)
 mRNA, complete cds.
 ACCESSION U19834
 VERSION U19834.1 GI:644785 Birgit OPPMANN, et al.
 KEYWORDS USSN: 09/658,699
 SOURCE red-crowned mangabey. Atty. Docket No.: DX01042X
 ORGANISM Cercocebus torquatus
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
 Cercopithecinae; Cercocebus.
 REFERENCE 1 (bases 1 to 1005)
 AUTHORS Villinger, F., Brar, S.S., Mayne, A., Chikkala, N. and Ansari, A.A.
 TITLE Comparative sequence analysis of cytokine genes from human and
 nonhuman primates
 JOURNAL J. Immunol. 155 (8), 3946-3954 (1995)
 MEDLINE 96003435
 REFERENCE 2 (bases 1 to 1005)
 AUTHORS Villinger, F.J.
 TITLE Direct Submission
 JOURNAL Submitted (13-JAN-1995) Francois J. Villinger, Emory University,
 Pathology, 1327 Clifton Rd, Atlanta, GA 30322, USA
 FEATURES
 source Location/Qualifiers
 1..1005
 /organism="Cercocebus torquatus"
 /sub_species="atys"
 /db_xref="taxon:9530"
 /clone="FPn IL-12a"
 /cell_type="peripheral blood mononuclear cells"
 /tissue_type="blood"
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 CDS 9..995
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 /codon_start=1
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 /protein_id="AAA86701.1"
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 LPHKKEDGIWSTDILKDQKEPKNETFLRCEAKNYSGRITCWWLSTISTDLTFSIISR
 GSSNPQGVTCGAATLSAERVGRDNKEYEYSVEQCEDSACPAEERLPIEVMVDIAHKL
 KYENYTSSFFIRDIIKPDPPKNLQLKPLKNSRQVEVSWEYPDTWSTPHSYFSLTFCIQ
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BASE COUNT 275 a 252 c 257 g 221 t
 ORIGIN

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241 aagtcaaaga gtttgagat gctggccagt acacctgtca caaaggaggc gaggcttga
301 gccattcact cctgctgcct cacaaaaagg aagatggaat ttgtccact gatatttta
361 aggaccagaa agaaccacaa aatgagacct ttctaagatg cgaggccaaa aattattctg
421 gacgtatcac ctgctggtgg ctgtcgacaa tcagtactga tctgacattc agtatcataa
481 gcagcagagg ctcttctaac cccaagggg tgacgtgtgg agccgtaca ctcttcgag
541 agagggtcag aggggacaat aaggagtatg agtactcagt ggagtgccag gaggacagt
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661 tcaagtatga aaactacacc agcagcttct tcatcaggga catcatcaaa cccgaccac
721 ccaagaactt gcagctgaag ccattaaaga attctcggca ggtggaggtc agctgggagt
781 accctgacac ctggagtact ccacattcct acttctccct gacattctgc attcaggctc
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901 tcatctgccg caaaaatgcc agctttagcg tgcaggccca ggaccgctac tatagctcat
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LOCUS MMU19841 1080 bp mRNA PRI 03-FEB-1996

DEFINITION Macaca mulatta interleukin-12 alpha (IL-12a) mRNA, complete cds.

ACCESSION U19841

VERSION U19841.1 GI:644799

KEYWORDS . Birgit OPPMANN, et al.

SOURCE rhesus monkey. USSN: 09/658,699

ORGANISM Macaca mulatta Atty. Docket No.: DX01042X

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae; Cercopithecinae; Macaca.

REFERENCE 1 (bases 1 to 1080)

AUTHORS Villinger, F., Brar, S.S., Mayne, A., Chikkala, N. and Ansari, A.A.

TITLE Comparative sequence analysis of cytokine genes from human and nonhuman primates

JOURNAL J. Immunol. 155 (8), 3946-3954 (1995)

MEDLINE 96003435

REFERENCE 2 (bases 1 to 1080)

AUTHORS Villinger, F.J.

TITLE Direct Submission

JOURNAL Submitted (13-JAN-1995) Francois J. Villinger, Emory University, Pathology, 1327 Clifton Rd, Atlanta, GA 30322, USA

FEATURES Location/Qualifiers

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CDS 13..999

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/db_xref="GI:644800"

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GSSNPQGVTCGAVTLAERVGRDNKEYEYSVEQEDSACPAAEERLP IEV MVDAIHKL
KYENYTSSFFIRDIIKPDPPKNLQLKPLKNSRQVEVSWEYPDTWSTPHSYFSLTFCIQ
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variation 405

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/replace="c"

variation 519

/gene="IL-12a"

/replace="a"

variation 629

/gene="IL-12a"

/note="Leu to Pro"

/replace="c"

variation 665

/gene="IL-12a"

/note="Leu to Pro"

/replace="c"

variation 714

/gene="IL-12a"

/replace="g"

variation 878

/gene="IL-12a"

/note="Ile to Thr"

/replace="c"

variation 895

/gene="IL-12a"
 /note="Ser to Pro"
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BASE COUNT      309 a      263 c      276 g      232 t
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  61 gcatctcccc tcatggccat atgggaactg aagaaagacg tttatgttgt agaattggac
 121 tggtagccgg atgcccctgg agaaatggtg gtcctcacct gtgacacccc tgaagaagat
 181 ggtatcacct ggaccttgga ccagagtggg gaggtcttag gctctggcaa aaccctgacc
 241 atccaagtca aagagtttgg agatgctggc cagtacacct gtcacaaaagg aggcgaggct
 301 ctaagccatt cactcctgct gcttcacaaa aaggaagatg gaatttggtc cactgatgtt
 361 ttaaaggacc agaaagaacc caaaaataag acctttctaa gatgtgaggc caaaaattat
 421 tctggacggt tcacctgctg gtggctgacg acaatcagta ctgatctgac attcagtgtc
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 541 gcagagaggg tcagagggga caataaggag tatgagtact cagtggagtg ccaggaggac
 601 agtgccctgcc cagccgctga ggagaggctg cccattgagg tcatgggtgga tgccattcac
 661 aagctcaagt atgaaaacta caccagcagc ttcttcatca gggacatcat caaacccgac
 721 ccaccaaga acttgagct gaagccatta aagaattctc ggcagggtgga ggtcagctgg
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 841 gtccagggca agagcaagag agaaaagaaa gatagaatct tcacagacaa gacctcagcc
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LOCUS BTU11815 1012 bp mRNA MAM 27-JAN-1996
 DEFINITION Bos taurus interleukin 12 40 kDa subunit mRNA, complete cds.
 ACCESSION U11815
 VERSION U11815.1 GI:555795 Birgit OPPMANN, et al.
 KEYWORDS . USSN: 09/658,699
 SOURCE cow. Atty. Docket No.: DX01042X
 ORGANISM Bos taurus
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidea;
 Bovidae; Bovinae; Bos.
 REFERENCE 1 (bases 1 to 1012)
 AUTHORS Zarlenga, D.S., Canals, A., Aschenbrenner, R.A. and Gasbarre, L.C.
 TITLE Enzymatic amplification and molecular cloning of cDNA encoding the
 small and large subunits of bovine interleukin 12
 JOURNAL Biochim. Biophys. Acta 1270 (2-3), 215-217 (1995)
 MEDLINE 95244628
 REFERENCE 2 (bases 1 to 1012)
 AUTHORS Zarlenga, D.S.
 TITLE Direct Submission
 JOURNAL Submitted (05-JUL-1994) Dante S. Zarlenga, U.S. Department of
 Agriculture, ARS, LPSI, PIL, Beltsville, MD 20705, USA

FEATURES Location/Qualifiers
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 /tissue_type="lymphoid"
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 /db_xref="GI:555796"
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 GSSDPRGVTCGAALLSAEKVSLHREYNKYTVCEQEGSACPAAEESLLIEVVVEAVHK
 LKYENYTSSFFIRDIIKPDPPKNLQLRPLKNSRQVEVSWEYPDWSTPHSYFSLTFCV
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BASE COUNT 275 a 245 c 267 g 225 t

ORIGIN

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361 aaagaaccca aagctaagag ttttttaaaa tgtgaggcaa aggattattc tggacacttc
421 acctgctggt ggctgacagc aatcagtact gatttgaaat tcagtgtcaa aagcagcaga
481 ggctcctctg acccccagag ggtgacgtgc ggagcagcgt tgctctcagc agagaaggtc
541 agcttgagagc acagggagta taacaagtac acagtggagt gtcaggaggg cagcgccctgc
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781 gacacgtgga gcaccccga ttctacttcc tccctgacgt tttgtgttca ggtccaggga
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901 aaggatgcca acgtccgcgt gcaagcccgg gaccgctact acagctcatt ctggagttaa
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